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at which time they are said to lay their eggs, I found this [cavity] in the bird.

They are well provided against the cold, as are all birds and animals [*sic*] that are found here. Close to the body they have a pretty fine down, like silk: outside of this there are quite thick feathers. Their skin is interiorly lined with fat, and I must not omit to state the fact that all of their intestines, vasa, blood vessels and nerves were quite as distinct as in the larger animals. It was therefore a matter of small wonder to me that they were so hard to kill whenever an attempt was made in that direction.

LIST OF BIRDS OBSERVED IN ESTES PARK, COLORADO, FROM JUNE 10 TO JULY 18, 1910.

BY OTTO WIDMANN.

THE name Estes Park, called after its first settler, Joel Estes, October, 1859, is given to a beautiful region in Larimer County, north central Colorado, Lat. 40° 24' north, Long. 105° 30' west. The park is twenty miles long from east to west and fifteen miles wide from north to south. Estes village is its center at the junction of Fall River with Big Thompson River. Two creeks, the Black Cañon from the northwest and Fish Creek from the south, also empty their waters into the Big Thompson at this place. Except in the vicinity of the village, which has now a hundred cottages where there were ten a few years ago, the valleys of the different streams are mostly too narrow for cultivation. Large short-grass meadows with sparse tree growth form the original 'parks' along the sides of the river bottoms, but in many places the walls of the mountains are so steep and so near the water, that even the road had to be cut through the rocks. This is particularly the case in the Big Thompson Cañon between the village and Fork's Hotel at the mouth of the North Fork, a distance of about ten miles

full of wild scenery, but now more and more occupied by cottages and camps wherever there is a spot level enough to pitch a tent. The elevation of Fork's Hotel is 6160 feet and that of the village of Estes at the post-office is 7500 feet. Elkhorn Lodge, at the west end of the village, one half mile from the post-office, is 7550 feet; Horse Shoe Ranch, five miles up in the Fall River valley, is 8500 feet; Miller's Ranch and Rustic Hotel, five miles north of the post-office, are 7,900 feet; Stead's Hotel, five miles southwest, is 8000 feet, and Long's Peak Inn, eight miles south, 9000 feet above the sea.

All these places are connected by fine driving roads, and it is mainly along these roads and within one mile of them that the notes were taken. No attempt was made to reach timberline, and the highest region visited was about 9500 feet in the vicinity of Long's Peak Inn, which region, for the sake of shortness, will be called Mills Park, named after Enos Mills, the genial proprietor of the Inn. Lying in the lap of the Front Range with its long row of high peaks, one of which, Long's Peak, reaches a height of 14,259 feet, and enclosed by chains of so-called foothills, most of them over 8000 feet high, the views from the roads of Estes Park are an ever changing panorama of mountain scenery, made most picturesque by the numerous snow fields which crown the loftiest peaks. Even as late as June 24 a fresh layer of the 'beautiful' added to the magnificence of the Front Range as beheld from the village, and when we left the valley four weeks later, large patches were still defying the hot rays of a burning July sun.

What enormous quantities of snow are deposited during the long winters in those heights can be conceived only when we consider that all the water carried down to the plains throughout summer is the product of melting snow, the precipitation during summer being hardly sufficient to keep the ground moist enough for the growing vegetation.

From June 10 to July 5 the base of our operations was at Elkhorn Lodge; from July 6 to 15 at Long's Peak Inn, and from July 15 to 18 at Fork's Hotel. Long's Peak Inn lies in the middle of a valley covered partly by a level meadow, called Glacier Meadow, one mile long by one fourth of a mile wide and very swampy in places, especially so near the inn, where the Inn Brook meanders through

it. Up to 9000 feet the yellow pine (*Pinus scopulorum*) makes fine trees, as a grove of them near Long's Peak Inn demonstrates. From 8000 feet up the lodgepole pine (*Pinus murrayana*) makes its appearance and begins to make pure, almost impenetrable, stands. The Douglas spruce (*Pseudotsuga mucronata*), which in the lower valleys is chiefly found with the blue spruce (*Picea parryana*) in the creek bottoms, becomes more common at 8000 feet and extends with the lodgepole to 10,000 feet. Engelmann's spruce (*Picea engelmanni*) and balsam fir (*Abies lasiocarpa*) occur along streams from 8000 feet up, but their real home is above 10,000 feet to timberline. White or limber pine (*Pinus flexilis*) is found locally from 8000 feet up, but is more abundant in the Engelmann spruce and balsam fir zone. Wherever we go, we soon meet with large tracts of very scant tree growth covered with the prostrate remains of trees destroyed by forest fires. It is highly probable that most of these fires were caused by lightning, as the almost daily occurring storms are often accompanied by severe discharges of electricity, which in drouths may easily set trees on fire. Not far from the Elkhorn Lodge we saw a pine of three feet diameter split in two in the middle for a distance of twenty feet to the ground. Deciduous trees are greatly in the minority and of small size except the aspen, which makes sometimes pure stands and grows to over a foot in diameter. Willows and aspens with some alder, birch and wild cherry make the bulk of the thickets along the streams from 7500 feet up, while at lower elevations the narrow-leaved cottonwood is added, but there are no oaks, elms, sycamores or any others of the many kinds of trees which fringe the water courses in the Eastern States. Mountain maples (*Acer glabrum*) make thick bushes at Fork's, where the hillsides, apparently too dry for conifers, are covered with shrubs and low vegetation. Although at first not inviting looking, these stony hillsides were found to harbor many more birds than one would expect, being attracted by the many eatable berries and seeds of the plants growing there and ripening in July.

June is the month when the wonderfully rich flora of these mountains is in its greatest glory. The earliest flowers of the year are then still in evidence, among them the modest pasque flower (*Pulsatilla hirsutissima*) and the conspicuous flowering raspberry

(*Oreobatus deliciosus*). The ground of the short-grass hills is at this time literally covered with flowers of many colors and shapes. To one not acquainted with the flora of the region the strange forms of *Oreocarya virgata*, *Frasera stenosepala*, *Elephantella grænländica*, *Eriogonum umbellatum*, and *Castilleja linariæfolia* are some among the striking novelties of the park. He will also wonder at the beauty of the snowy-white flowers of the evening primroses (*Anogra* and especially *Pachylophus cæspitosus*) growing abundantly in company with the golden-yellow bunches of the stone-crop (*Sedum stenopetalum*) on the bare gravel, where nothing else can find a foothold. He will admire the rich coloration and abundance of the loco-weeds (*Aragallus*) and their cousins *Lupinus* and *Thermopsis*, all conspicuous for bright colors. Toward the end of the month the great-flowered *Gaillardia* adorns the hills, the Mariposa lily opens its unpretentious flowers, and the blue columbine shines through the woods. Along the creeks innumerable shooting-stars decorate the banks, and wherever we go, we see representatives of such well-known genera as *Achillea*, *Arnica*, *Aconitum*, *Campanula*, *Cleome*, *Crepis*, *Delphinium*, *Epilobium*, *Erigeron*, *Erysimum*, *Lappula*, *Lithospermum*, *Penstemon*, *Phacelia*, *Polygonum*, *Senecio*, *Solidago*, etc.

The climate of the region would have been nearly perfect during our stay, had it not been for the almost daily occurrence of thunderstorms with or without precipitation, often only a sprinkle, but sometimes heavy rain with much hail and followed by a strong, cold wind from the west. The early morning hours were ideal; the clearest sky imaginable with cool, though never freezing, temperature, soon tempered by the unobstructed rays of the sun. With the rise in temperature the sky began to change its appearance. As early as eleven, sometimes before ten o'clock, the first clouds gathered around the high peaks, and by noon they had formed dark, often black, masses, from which went out streaks of lightning accompanied by very unpleasant rumblings of thunder. These threatening clouds may linger for hours among the peaks with very little movement, or they may break out with great rapidity and pour out their wrath for half an hour or more. With few exceptions every afternoon was thus partly lost for field-work by the unpleasant weather conditions, but when the storm did

not only threaten but really bring a good rain, everything was refreshed, plant and bird, and the laziest songsters became musical for a short time.

Compared with eastern birds the songsters of the region were with few exceptions the laziest musicians imaginable; not even the early morning hours, which are so full of melody with us, induced them to much effort, and during the day the silence away from the village was almost exasperating even in June, still more so in July. The farther away from human activity the more retiring were their habits, and with the thick vegetation along the watercourses and the dense foliage of the evergreens it was easy enough for any bird to hide and remain invisible even when singing or calling. Not only their song but even their call-notes were much softer than those of their eastern relatives, and it took the sharp ear of Mrs. Widmann to notice the faint lisps of the Empidonaces and other slender-voiced species.

From the long list of summer residents it might be inferred that there is an abundance of bird life to be found in Estes Park, but such is not the case. By visiting the surrounding mountains at an elevation of over 10,000 feet the list could have been swelled to a full hundred, but of this great number of species only about a dozen could be called common, and these only near human habitations.

The Western Robin was by far the most numerous and conspicuous bird at all places visited, and its song, frequently the only one heard, was freely given at all hours of the day and until dark in the evening. Next to the Robin in abundance and singing was the Western House Wren, whose musical ability was found to be of a higher quality than that of its eastern cousin; it had a finch-like intonation, which was rather misleading at times. Conspicuous by its lovely color and charming fearlessness was the Mountain Bluebird. Unfortunately it was a silent bird; only a short, ventriloquial call-note, slightly reminding the dear carol of our eastern *Sialia*, was heard when the parents tried to keep the family together. Along the watercourses in the neighborhood of settlements the Warbling Vireo and the Mountain Song Sparrow could be called common, as their songs could not escape the ear of anyone who cares for bird music; away from men they were rather rare, and the same can be said of the White-crowned Sparrow.

Locally common were the Brewer's and Red-winged Blackbird; the former on short- and long-grass meadows and in the village itself; the latter only on wet meadows. Both species occurred in flocks at Fork's at the middle of July. Of Swallows the Violet-green was the most common and generally distributed, but in the centre of the village the Eave was the most numerous, with nests on cliffs as well as under eaves.

Of Woodpeckers, the Red-shafted Flicker was the only one which could be called common; but the two Sapsuckers, the Red-naped and Williamson's, although not numerous, appeared so at times through their habit of flying long distances to fetch food for their young, thereby crossing and recrossing continually valleys, roads and buildings. Numerous without appearing to be common because of their diminutive size and quiet ways were the Pygmy Nuthatch and the Mountain Chickadee. The Chippy, present at or near every settlement, did not play a conspicuous part, being rather shy and silent. The Pine Siskins were more in evidence, though less numerous, by their fearless manner in feeding by the wayside in small troops. Very prominent without being really numerous were the Magpies and Long-crested Jays because of their large size, loud voice, and gregarious habit, at least at the time of our visit, when they moved in family groups with constant chattering.

Lists of the birds of Estes Park have already been published. Vernon Lyman Kellogg's 'Notes on some Summer Birds of Estes Park, Colo.' was published in 1890 in the Transactions of the Kansas Academy of Science, Vol. XII. His observations were made during the summers of 1886-89. He noted 60 species and added 16 species on the authority of Gilbert Pierce, formerly of Lamb's Ranch, Estes Park. Richard C. McGregor's 'Birds of Estes Park,' observed in July and August, 1893, was published in 'The Nidologist,' Vol. IV, pp. 3-5, January, 1897. He mentions 58 species. Comparing these lists with the present one we find that some change in the bird fauna has been going on during the seventeen years since McGregor made his observations. The principal difference seems to be in the addition of eastern species, which have advanced through the foothills deeper into the mountains with the settlement of the valleys.

Not counting those species that have been found only at Fork's, 6160 feet, which place was probably not visited by Kellogg and McGregor, twelve species must be considered new additions from the east to the bird fauna of Estes village. They are Chestnut-backed Bluebird, Catbird, Western Yellowthroat, Yellow Warbler, Rough-winged Swallow, Western Vesper Sparrow, Pine Siskin, House Finch, Cowbird, Bobolink, Kingbird, House Sparrow.

Increased in numbers seem to have the following: Western Robin, Western House Wren, Mountain Song Sparrow, Barn Swallow, Red-headed Woodpecker, Red-winged Blackbird, Western Meadowlark, Pygmy Nuthatch (of which Kellogg saw but one), and the Band-tailed Pigeon, now protected by State law until September 1, 1914.

Decreased have: Kingfisher, Rock Wren; Western Tanager, which McGregor found abundant; Cassin's Purple Finch, also called abundant by McGregor; probably also Audubon's Hermit Thrush, found "not uncommon" by Kellogg. That Cassin's Kingbird has ever been common, as Professor Kellogg found it twenty years ago, is so much more astonishing as not a single individual has been met with anywhere. To the decrease of Birds of Prey is due the enormous increase of Chipmunks and Spermophiles, and to their increase the scarcity of birds which build on or near ground. The little chipmunk (*Eutamias amoenus operarius*) may be less injurious to birds than the larger one, Say's spermophile (*Callospermophilus lateralis*), which is by far the commoner of the two at the altitude of Long's Peak Inn, 9000 feet. That not even bird nests in low trees are safe from the attacks of this rodent, which has the size of a house rat, was proved to us June 28, when near Horse Shoe Falls our attention was called by the most piteous cries of a pair of Audubon's Warblers to a young Douglas spruce, in which a Say's spermophile was climbing up and had already reached a height of three feet, climbing higher in spite of the hostile demonstrations of the distressed warblers. Eight feet from the ground and two feet from the tip of the spruce was the home of four not yet fully fledged warblers and it was clear that the 'rat' intended an attack upon it, for the animal is never seen to go up trees in its ordinary occupation, which is chiefly aimed at the destruction of wild flowers, on which it seems to live in summer,

thereby reducing considerably the beautiful flora of its habitat. Natives attribute the present scarcity of birds to the savage pastime of some campers, who spend the dull hours of the day hunting. As there is no game to be killed, and as it would be against the law to kill none-game birds in Colorado, the hunters pretend to shoot only Magpies and Jaybirds, which are exempt from protection. Mr. Mills told us that there were times when parties of campers wagered, which party would bring home the largest number of birds after a day's hunting. It is not nearly so bad now, but the whole region around Estes Park should be made a National Park, in which no shooting at all should be allowed. The influx of visitors becomes ampler every year since the roads to Lyons and to Loveland have been made so pleasant for automobiling, and on Saturdays as many as fifty automobile parties come from neighboring towns, mainly from Denver, to spend the Sunday in the park. While Say's spermophile, the mountain rat (*Neotoma*), the weasel (*Putorius*) and the bobcat (*Lynx uinta*) are destructive to birds nesting on or near the ground, the boy with the gun must be regarded the most dangerous enemy of birds in general, but with the prohibition of firearms and the reduction of the superabundance of chipmunks and spermophiles it may be hoped that Estes Park becomes as much a paradise for birds in Colorado as Yosemite Valley is in California.

List of Species.

1. **Porzana carolina.** July 9. One in very fine plumage in swampy part of the Glacier Meadow within one hundred yards of Long's Peak Inn. Became very much excited on approach and walked about with many sharp 'kigs,' as if fearing for its nest or young. It was again seen at the same place on the following day.

2. **Gallinago delicata.** First seen on fence post near Long's Peak Inn July 7, 8.45 A. M., uttering loud calls. Again seen on evening of July 8 on fence post uttering the same loud calls, which we heard in two other places in the Glacier Meadow between Long's Peak Inn and Lamb's Ranch on several evenings between July 9 and 14 and which were continued until 8.30 P. M., when it was almost dark.

One was seen walking in the water-covered part of the meadow on the morning of the 9th with incessant calls of *wack*, apparently calling its young ones.

3. **Actitis macularia.** Two adults with three very small young ones

were seen June 25 at Lily Lake, 8900 feet. One was seen at Sheep's Lake 8500 feet July 1, and one at Mills brooklet, July 8, 9000 feet.

4. **Colinus virginianus.** One female ran across the road near the Electric Light Plant in Fall River valley July 1, and two on the same day near Horse Shoe Ranch, 8500 feet. Two in Lamb's Ranch, July 14, 9040 feet.

5. **Columba fasciata fasciata.** One flock of 25 on Miller's Ranch, 7900 feet, in oatfield, June 21. Another flock of 20 visiting the oatfield of the Horse Shoe Ranch, 8500 feet, June 22, July 1 and 2.

6. **Zenaidura macroura carolinensis.** Numerous at Fork's, 6160 feet, July 15-18. A few in Estes village frequenting the lawns. None higher up than Moraine Park, 8000 feet.

7. **Accipiter cooperi.** One flew low over Elkhorn Lodge at sundown July 2, going straight up Fall River valley.

8. **Buteo borealis calurus.** Two young and one adult, seen together in the air above Beaver Creek valley, south of Deer Mountain, June 22. One adult, in air above Wind River valley, June 25. One above Mills Beaver Lakes, 2 miles south of Inn in Mills Park, July 7. One over Inn, July 10. One over Schwarz's beaver pond, 4 miles south of Long's Peak Inn, July 12.

9. **Buteo swainsoni.** One over Old Man Mountain, June 12.

10. **Archibuteo ferrugineus.** Two in fine dress low over Fall River valley, June 10.

11. **Falco mexicanus.** One chased a Sparrow Hawk across Glacier Meadow July 9; again seen at same place July 11. One flies down Big Thompson valley toward Prospect Mountain July 15.

12. **Falco sparverius phalæna.** Six pairs were located. One in Fall River valley; one in Black Cañon near Twin Owls Mountain; one in Beaver Creek valley; one at Mary's Lake; one feeding young in hole 6 feet from ground in Mills Park, July 10, and one with one young just out of nest near Fork's, July 16.

13. **Otus asio maxwelliæ.** July 8 to 14 repeatedly heard after dark in vicinity of Long's Peak Inn. Two and three heard at same time.

14. **Bubo virginianus pallescens.** One June 19, on side of Old Man Mountain, where, according to natives, the species has been nesting for years.

15. **Ceryle alcyon.** One in Fall River valley, June 14. One in valley of North Fork of Big Thompson River, July 16 and 17.

16. **Dryobates villosus monticola.** Only one pair, near Horse Shoe Ranch, July 2.

17. **Dryobates pubescens homorus.** One pair repeatedly seen (June 18, 24, 29) near Stanley's hotel, 7550 feet.

18. **Sphyrapicus varius nuchalis.** Ten pairs located: One at Fork's; three near Estes village; two at Horse Shoe Ranch; one in Lamb's Ranch (9040 feet) feeding young in nest July 14; one at the Long's Peak Inn; one at Mills Beaver Lakes; one at Columbine July 8. The young of this and the next species are so noisy that nests are easily found.

19. **Sphyrapicus thyroideus.** Four pairs feeding young in holes 8 to 20 feet from the ground in pines. One near Elkhorn Lodge, June 11 to 19. One near Stanley's hotel, June 11 to 30. One in Mills Pine grove, still feeding July 9. One, Lamb's Ranch, young leaving nest July 12.

20. **Melanerpes erythrocephalus.** Three pairs; two on hill south of Elkhorn Lodge; one near McGregor's Ranch, north of the village, 7600 feet.

21. **Asyndesmus lewisi.** Only at Fork's, 6160 feet, where were four pairs within two miles; young just out of nest July 16.

22. **Colaptes cafer collaris.** Eighteen pairs located between Fork's and Long's Peak Inn. Fully grown young July 15 at Fork's.

23. **Phalænoptilus nuttalli nuttalli.** Only in one place; two birds heard at 8 P. M., June 19, on plateau above forester Ryan's lodge south of Old Man Mountain.

24. **Chordeiles virginianus henryi.** Singly or in troops nearly every evening at all places. One young, hatched the same morning, was shown us July 14 by Mr. Dean Babcock, who had watched the sitting bird during the entire incubation of 21 days. One of the two eggs was deserted by the parent who removed the newly hatched young about six feet from the nest.

25. **Cypseloides niger borealis.** Two were hunting over Glacier Meadow, 9000 feet, in the evening of July 8, and on July 10 three were seen at the same place at 11.30 A. M., during a light rain which preceded a heavy hail storm.

26. **Aëronautes melanoleucus.** Only three times seen for a few moments, singly or twos, over the village June 17, 21, July 3, always between 8.40 and 10 A. M.

27. **Selasphorus platycercus.** Seen from June 16 to July 16 at twelve places at 6150, 7500 and 9000 feet. Two stations, on tip of dead trees, of males watching nesting ground in Mills Park (July 5 to 15). Saw male playing, up and down flight, July 10; male chasing Brewer's Blackbird, July 7.

28. **Tyrannus tyrannus.** June 19, one in Estes village, 7500 feet, near mouth of Fall River. July 15-18, six pairs in valley of North Fork, 6160 feet, where quite conspicuous; one feeding young in nest in pine fifty feet from ground.

29. **Nuttallornis borealis.** One at Mills Beaver Lakes, 8700 feet, Mills Park, July 7.

30. **Myiochanes richardsoni.** Five pairs in Estes village, where they were often heard until 8 P. M. Also at Gem Lake, 8000 feet, Horse Shoe Falls, 8500 feet, but none at Mills Park. Several at Fork's, where a partly albino would have been difficult to recognize if he had not been calling continually. The bird was pure white on the breast and tail and had black stripes on the white head, resembling the markings of the White-crowned Sparrow.

31. **Empidonax difficilis difficilis.** Repeatedly heard and seen at four stands in Estes village and one mile west on Fall River.

32. **Empidonax hammondi.** In three places along North Fork within one mile of Fork's.

33. **Empidonax wrighti.** July 9, one in a pasture near Long's Peak Inn; at same place, July 10. July 12, one in Lamb's Ranch.

34. **Pica pica hudsonia.** At all places. Young out of nest June 18, fully grown except tail. Usually seen in families. Old nests in many places, some as low as eight feet. Much shyer than Jays and do not come into the village or near buildings.

35. **Cyanocitta stelleri diademata.** At all places; at first only single birds seen. After June 22, mostly in families. At Fork's, a troop of twelve on the ground near camps.

36. **Perisoreus canadensis capitalis.** July 1, one flying across Horse Shoe Park, near Sheep Lake; July 13, a family in Lamb's Ranch, where they are said to breed and winter. They seemed to be quite at home and came within a few yards of the buildings, scrutinizing and greeting the intruders with interesting talking.

37. **Nucifraga columbiana.** Only once seen, three birds, July 13, at foot of Estes Cone north of Lamb's Ranch, about 9500 feet, coming over Wind River cañon from Lily Mountain.

38. **Dolichonyx oryzivorus.** June 15. One male in meadow near Elkhorn Lodge; under observation half an hour, but not seen again.

39. **Molothrus ater ater.** July 3. One male in pasture with cattle near Burch's chalet in Estes village.

40. **Agelaius phoeniceus fortis.** About six pairs in Stanley's meadow at the east end of Estes village; about the same number in Horse Shoe Park and in Mills Park, where young out of nest were fed July 7. A flock of about thirty young ones at Fork's, July 15 to 18, and a few, still feeding young in nest, very noisy around the hotel and along North Fork.

41. **Sturnella neglecta.** A few on large meadows in every valley; several in Stanley's pasture at east end of village; in Big Thompson Valley south of village; in six places between village and Devil's Gulch; in Moraine and Horse Shoe Parks; Beaver Creek valley; Marie's Lake, and once heard song in Lamb's pasture, 9040 feet, July 12.

42. **Euphagus cyanocephalus.** At all settlements; prominent in village, where they frequent vacant lots and roads, doing much flying to and fro when feeding young. On June 19 they were particularly busy catching insects high in air. Are scolding and aggressive when one approaches their nest. First young out of nest in the village June 30. Still feeding young in nest at Mills Park July 13. In large flocks, young and old together, at Fork's, July 15-18.

43. **Carpodacus cassinii.** Three pairs in the village and one at the Horse Shoe Ranch. Young male in brown singing, June 15 and 18. Pairs often come down to the ground to feed on seed of dandelion, and males sing on the ground.

44. **Carpodacus mexicanus frontalis.** One pair in the village at the foot of the cliff behind Hupp's Annex. Male sings on telephone wire.

45. ***Loxia curvirostra minor***. June 20, male and female together in top of Douglas spruce one mile west of Elkhorn Lodge in Fall River valley. June 23, four alight on tree at head of Devil's Gulch, 8000 feet. June 25, calls of Crossbills flying over Mills Park.

46. ***Astragalinus psaltria psaltria***. None before July 11, when two alighted in Mills Park. July 12, five fly over Lamb's Ranch going south toward Mills Park.

47. ***Spinus pinus***. Small parties in the village seen almost daily; a few at Long's Peak Inn.

48. ***Passer domesticus***. Two pairs in center of the village, where were four young ones flying together, June 30. Also two males seen at Stead's Hotel in Moraine Park, 8000 feet.

49. ***Poœcetes gramineus confinis***. In two places on large short-grass meadow near head of Devil's Gulch, June 23.

50. ***Zonotrichia leucophrys leucophrys***. Six singing males were located in the village along Fall and Big Thompson Rivers. The song was best heard in the evening after sunset and after rains, less regularly in the morning. At Long's Peak Inn one male was singing all day until dark and Mr. Mills said, he heard it often in the middle of the night. This pair was very tame and came within a few yards of the guests at the inn.

To one accustomed to the song of the species in the East the song of this Rocky Mountain bird is a great surprise, for it has no resemblance at all, only one note at the beginning to the monotonous ditty reminding one of the much more powerful and melodious song which we hear every May in the Mississippi Valley. The bearing, too, seems to lack the proud carriage of the more stately and apparently handsomer eastern brother, and if the books did not accept it as one and the same species, one could take them for different birds.

51. ***Spizella passerina arizonæ***. The Chippy was found near every settlement, most numerous in the village, but also at the Horse Shoe Park, at the Long's Peak Inn, and at Fork's.

52. ***Spizella pallida***. On the afternoon of July 10 I was surprised by seeing a Clay-colored Sparrow coming down to the water of the Inn brook between the Long's Peak Inn and Columbine to drink. Going to the same place next morning early I saw two young ones with a crescent of fine streaks over the buffy breast. At Fork's the species seemed to be fairly common among the sage-brush vegetation of the hillsides, several family groups being startled July 18.

53. ***Junco phœnotus caniceps***. Only one bird was seen near the village at the foot of Old Man Mountain June 18. Several together and first young out of nest fed by parent were seen at Horse Shoe Park, 8500 feet, July 1. More numerous and a rather frequent songster at Mills Park, 9000 feet. A nest with four eggs July 14.

54. ***Melospiza melodia montana***. Six singing males along the streams in Estes village. Song heard also at Horse Shoe and Moraine Parks; at Lily Lake, 8900 feet; at Mills Beaver Lake, 8700 feet; at

Schwarz's beaver lake, 8500 feet; but none on Glacier Meadow, 9000 feet, where entirely replaced by Lincoln's Sparrow.

55. **Melospiza lincolni lincolni.** Only one pair in Estes village in Stanley's pasture, together with Song Sparrows on the same ground. Also with Song Sparrow in Horse Shoe Park, 8500 feet. More common in Mills Park, where their song could be heard at all times of the day at Long's Peak Inn, the singer sitting within a few yards of the building. Four were in song at the same time in Glacier Meadow and several more along Inn Creek, which flows south toward the St. Vrain River.

56. **Pipilo maculatus montanus.** Only at Fork's, where common, in song and with fully grown young.

57. **Oreospiza chlorura.** At all places, in song, from Fork's to Mills Park, but nowhere conspicuous because shy. With fully grown young July 18 on the hillsides above Fork's.

58. **Zamelodia melanocephala.** At Fork's; in the village and Horse Shoe Ranch, but none at Mills Park.

59. **Passerina amoena.** Only at Fork's; several males in full song, and fully grown young, July 15.

60. **Piranga ludoviciana.** At Fork's and at several places in the cañon of the Big Thompson. Two pairs in the village, and one male July 12 in Lamb's Ranch.

61. **Petrochelidon lunifrons lunifrons.** Twenty-three nests were occupied under the eaves of the schoolhouse in Estes village. Several more were in use on the cliffs at the mouth of Fall River, and on the rock near the planing mill. Birds were seen near Highland Inn and in the cañon of the Big Thompson between the village and Fork's, but much larger numbers were seen in the cañon east of Fork's.

62. **Hirundo erythrogastra.** One or two pairs in the village on the Dunraven Ranch; seen also at Highland Inn and Mary's Lake. Two pairs feeding young in nests, July 15-18, at Fork's.

63. **Iridoprocne bicolor.** Associating and sitting together side by side with Violet-green Swallows were two pairs of Tree Swallows on the telephone wire in front of Long's Peak Inn, July 7.

64. **Tachycineta thalassina lepida.** The most numerous and generally distributed of the swallows; common at Fork's, as well as in the village and Mills Park. Nesting about buildings, but more frequently in woodpecker holes in the vicinity of settlements; never far from them. One looked out of an old Eave Swallow's nest under the eave of a cottage in the village; another pair building in a nook under the roof of a cottage was driven from it by a Mountain Bluebird preparing for a second brood.

65. **Stelgidopteryx serripennis.** One pair at the east end of the village near Dunraven ranch.

66. **Vireosylva gilva swainsoni.** Song heard along all streams from 6000 feet to 9000 feet; but mostly near settlements; song still heard July 18, when we left.

67. **Lawrence's solitarius plumbeus.** One pair in village on bluff

above planing mill. At three places song heard and birds seen within half a mile of Fork's along Big Thompson River July 15-18.

68. **Vermivora virginiae**. Only one male, in song, at Gem Lake, 8000 feet, July 22.

69. **Dendroica aestiva aestiva**. Three pairs in the village, where was a nest with three apparently fresh eggs, June 24, in Stanley's meadow. Song heard also in three places at Fork's, July 15-18.

70. **Dendroica auduboni auduboni**. Three pairs on the hillsides in the village; a few up Fall River valley to Horse Shoe Falls where was a nest with nearly fledged young, June 28. More numerous in Mills Park, where they visit porches and sides of cottages in search of flies. They are no hiders and therefore among the birds oftenest seen in the Park. First young out of nest in Mills Park July 9.

71. **Seiurus noveboracensis notabilis**. Only one seen at Fork's, July 16, on an island in Big Thompson River, half a mile east of Fork's hotel, started from bank with alarm note.

72. **Oporornis tolmiei**. Oftener heard than seen. Three in song along Fall River and Big Thompson River in the village; several between the village and Horse Shoe Falls; one in song near Long's Peak Inn; none at Fork's.

73. **Geothlypis trichas occidentalis**. One male in song June 30 in the village on the bank of the Big Thompson River at the foot of Prospect Mountain.

74. **Wilsonia pusilla pileolata**. Two males in Horse Shoe Park; one in Mills Park.

75. **Cinclus mexicanus unicolor**. Two nests, under bridges over the Big Thompson River, east of the village. The nests were placed directly under the floor, and the birds flew from under the bridges every time a vehicle passed over them. At Fork's they were quite fearless and could be watched under the water, both in the Big Thompson and North Fork Rivers.

76. **Dumetella carolinensis**. Three singing males in the shrubbery along Fall River and Black Cañon Creek, in the village. The song of one near Elkhorn Lodge differed as much from that of the eastern as the song of the Western Meadowlark differs from the Eastern. One at Fork's July 16.

77. **Salpinctes obsoletus obsoletus**. One had its station on the edge of the cliff behind Hupp's Annex in the village and was singing there even in the strongest breeze. Another was seen on the side of the Old Man Mountain near Ryan's lodge.

78. **Troglodytes aëdon parkmani**. One of the common birds from Fork's to Mills, not only about human habitations, but some distance from them in the woods and among boulders. Its song is more pleasing than that of its eastern half-brother, but is not given with the same liberality and perseverance.

79. **Sitta carolinensis nelsoni**. Two pairs in the village; one pair

with grown young, June 23, at head of Devil's Gulch; one pair in Mills Park, July 6; in Wind River cañon, July 7; Lamb's Ranch, July 14.

80. ***Sitta pygmæa***. Seven pairs located; four in the village; one at Horse Shoe Ranch; one in Mills Park; one in Lamb's Ranch. First young leave nest June 21.

81. ***Penthestes atricapillus septentrionalis***. One pair near Elkhorn Lodge; one near Gem Lake, 8000 feet; two pairs at Fork's, feeding young out of nest, July 15.

82. ***Penthestes gambeli gambeli***. Five pairs near the village; two at Horse Shoe Ranch, two in Mills Park. First young leave nest June 16; building again June 26.

83. ***Regulus calendula calendula***. None near the village. Lily Lake, 8900 feet, June 25; Horse Shoe Ranch, July 2; two pairs near Long's Peak Inn, 9000 feet, and one at Lamb's Ranch, 9040 feet; one at Schwarz's beaver lake, 8500 feet, July 6.

84. ***Myiadestes townsendi***. One near the village, at side of Old Man Mountain, June 18 and 19; one in song, Gem Lake, 8000 feet, June 22; one in song in Wind River cañon, June 25; one on tree-top, Lamb's Ranch, 9040 feet, July 12.

85. ***Hylocichla fuscescens salicicola***. Four in song in Mills Park July 8-14; heard sometimes during the day, but regularly in evening just before dark.

86. ***Hylocichla ustulata swainsoni***. From Fork's to Mills, 6000-9000 feet, along all streams; one even in village near the mouth of Fall River, and others just outside of the village. One came to the lawn of Elkhorn Lodge in the early morning when everything was quiet, but otherwise they were exceedingly shy and were seldom heard to sing in day time and usually not until it was so dark in the evening that it was not easy to see them, even when one succeeded in getting near to the singer. Living always in the dense thicket, immediately adjoining the streams, the only time to observe them well is when they come to the edge of the water to feed at the bank, which they often do. When singing they sit about twenty feet from the ground in, not on top of a tree, sometimes an aspen, but more commonly a spruce or pine. The song is a very simple one, but is repeated with hardly any modulation over and over until it becomes monotonous. It may be represented by *wida widy* — *wida widy dewit*, with the second part often omitted. Although heard in Mills Park they were more numerous between 6000 and 8000 feet.

87. ***Hylocichla guttata auduboni***. None near the village. Two, in song, at head of Wind River cañon near Lamb's, 9040 feet, and two near Long's Peak Inn, 9000 feet; very quiet, singing only a few minutes at a time.

88. ***Planesticus migratorius propinquus***. The most numerous and best known of all birds, almost omnipresent in the valleys, not only near settlements, but far away from them in the woods. As common at Fork's as in Mills Park, but most abundant in the village, where their song

was heard early and late, and where parents carrying food to young were constantly crossing and recrossing the roads. First grown young out of nest June 19.

89. ***Sialia mexicana bairdi***. Two pairs near village nesting in old woodpecker holes in pines; one of them was near Stanley manor, the other west of Elkhorn Lodge in Fall River valley. One of the males had the chin light, the other dark blue.

90. ***Sialia currucoides***. Next to the Robin, probably the most conspicuous and best distributed bird, building not only in treeholes, but also about buildings in the village. One pair fed fully grown young June 15 and began preparing for a second brood June 19, dislodging a pair of Violet-green Swallows from a cozy nook under the gable of a cottage at the Elkhorn. In Mills Park one pair fed young in a hole only four feet from the ground, but usually the nests were in woodpecker holes higher up, some in the same tree with Pygmy Nuthatches or Violet-green Swallows, or all three in the same tree.

TWO UNUSUAL FLIGHTS OF CANADA GEESE NOTED IN MASSACHUSETTS DURING THE FALL OF 1910.

BY J. C. PHILLIPS.

IN THE following notes I wish to put on record the occurrence of two autumn flights of Canada Geese in Massachusetts during 1910, both of which seem to me of interest.

In 'The Auk' for July, 1910, I showed that the appearance of geese in any numbers was rare before October 15 to 20, at which time there are apt to be small flights. It is exceedingly hard to find Massachusetts records during the first week in October. It was therefore quite surprising to note a very considerable migration of geese on October 3 and 4, 1910. The facts which follow show that this extremely early movement was much more than an accidental occurrence.

At Wenham Lake October 3 was clear and calm, following a strong northwest wind of the previous day. There were a few Black Ducks moving in the early morning, and a bunch of six Red-